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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* THOMAS GRAFENAUER

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Appeal 2008-4135  
Application 10/697,567  
Technology Center 3600

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Decided: <sup>1</sup> March 11, 2009

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*Before:* WILLIAM F. PATE III, JOHN C. KERINS, and  
STEVEN D.A. McCARTHY, *Administrative Patent Judges.*

McCARTHY, *Administrative Patent Judge.*

DECISION ON APPEAL

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<sup>1</sup> The two month time period for filing an appeal or commencing a civil action, as recited in 37 CFR § 1.304 (2008), begins to run from the Decided Date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or the Notification Date (electronic delivery).

STATEMENT OF THE CASE

The Appellant appeals under 35 U.S.C. § 134 (2002) from the final rejection of claims 1, 3-7, 9, 12 and 13 under 35 U.S.C. § 102(b) (2002) as being anticipated by Pålsson (WO 01/75247 A1, publ. Oct. 11, 2001). We have jurisdiction under 35 U.S.C § 6(b) (2002).

We AFFIRM the rejections of claims 1 and 3. We REVERSE the rejections of claims 4-7, 9, 12 and 13.

The claims on appeal relate to a floor panel which ensures locking both in the transverse direction and in the vertical direction. (Spec. 1, ll. 32-35). Claim 1 is typical of the claims on appeal:

1. A floor panel which is bounded in a horizontal plane by a top side having a decorative layer, and an underside provided for bearing on an underlying surface, the floor panel being provided with means for releasably connecting at least two panels, wherein the connecting means are formed on at least one first side edge such that locking takes place in a transverse direction (Q) and vertical direction (V), and further comprising form-fitting elements for locking in the vertical direction (V) with a further panel formed on a second side edge running at an angle to the first side edge, wherein the form-fitting elements are spaced apart from one another in the transverse direction (Q) and in the vertical direction (V) on two spaced-apart, essentially vertically oriented walls, and further comprising a tongue formed on the first side edge and extending in the longitudinal direction of the first side edge, and a recess corresponding to the tongue formed on an opposite side edge, wherein an underside of the tongue, starting from a tip of the tongue, has a continuously curved contour and wherein a radius

of curvature of the contour of the underside of the  
tongue is constant over at least 90 degrees.

Pålsson discloses flooring material comprising sheet-shaped floor  
elements. The floor elements are joined by means of joining members on  
the edges of the floor members. (Pålsson 2-3).

### ISSUES

The Appellant argues claims 1 and 3 together, contending that Pålsson  
fails to disclose form-fitting elements, for locking in the vertical direction  
with a further panel, formed on a second side edge running at an angle to the  
first side edge, wherein the form-fitting elements are spaced apart from one  
another in the transverse direction and in the vertical direction on two  
spaced-apart, essentially vertically oriented walls. (App. Br. 5-6). The  
Examiner finds that snapping hooks 23 formed on a vertical inner wall of a  
side edge of Pålsson's floor element and the slope formed on a mainly  
vertical lower cheek surface 21 of the side edge constitute form-fitting  
elements for locking in a vertical direction. (Ans. 6).

The Appellant argues claim 4 separately, contending that Pålsson fails  
to disclose undercuts formed on an inner wall and an outer wall which  
correspond with the one and the other form-fitting elements. (App. Br. 9  
and 10). The Examiner finds that an outer wall of one edge of Pålsson's  
floor element includes undercuts 24. (Ans. 4). The Examiner further finds  
that the mainly vertical upper cheek surface 22 of the inner wall of the same  
edge could be an "undercut" if the floor element is flipped upside-down.  
(Ans. 8-9). The Examiner finds that the undercuts 24 correspond to the

snapping hooks 23 and that the mainly vertical upper cheek surface 22 corresponds to the slope formed on the lower cheek surface 21. (Ans. 4).

The Appellant argues claims 5-7 as a group, contending that Pålsson fails to disclose a first step-like milled relief including an essentially horizontal head surface with a channel formed therein. (App. Br. 14-15). The Examiner finds that Pålsson's male vertical joining member 10''' constitutes a step-like relief and that the space between lower cheek surface 21 and the vertical wall of the floor element opposite the lower cheek surface constitutes a channel in the otherwise horizontal surface which may be faired over the lowermost face of the male vertical joining member 10'''. (Ans. 9-10).

The Appellant argues claim 12 separately, contending that Pålsson fails to disclose walls forming at least a portion of a tongue and a groove or recess on a first side edge of the floor panel being sized and shaped to form a dust pocket. (App. Br. 12 and 16). The Examiner finds that the size and shape of Pålsson's tongue and groove are similar to the size and shape of the tongue and groove disclosed in the Appellant's Specification (Ans. 6) and that the tolerances necessary in the design and manufacture of floor elements such as Pålsson's are such as to inherently form a dust pocket (Ans. 10-11 and 12-13).

The Appellant's contentions raise four issues:

Has the Appellant shown that the Examiner erred in finding that Pålsson discloses form-fitting elements for locking in the vertical direction with a further panel formed on a second side edge running at an angle to the first side edge, wherein the form-fitting elements are spaced apart from one another in the

transverse direction and in the vertical direction on two spaced-apart, essentially vertically oriented walls?

Has the Appellant shown that the Examiner erred in finding that Pålsson discloses undercuts formed on an inner wall and an outer wall which correspond with the one and the other form-fitting elements?

Has the Appellant shown that the Examiner erred in finding that Pålsson discloses walls forming at least a portion of a tongue and a groove on a first side edge of the floor panel being sized and shaped to form a dust pocket?

Has the Appellant shown that the Examiner erred in finding that Pålsson discloses a first step-like milled relief including an essentially horizontal head surface with a channel formed therein?

#### FINDINGS OF FACT

The record supports the following findings of fact (“FF”) by a preponderance of the evidence.

1. Pålsson’s floor element 1 has a male joining member 10’ on a first edge 2’ and a female joining member 10’’ on a second edge 2’’ opposite the first edge 2’. (Pålsson 6, ll. 24-27).

2. The male joining member 10’ of Pålsson’s floor member 1 is provided with a tongue 11 and the female joining member 10’’ is provided with a groove 13. (Pålsson 6, ll. 27-30).

3. Fig. 1 of Pålsson shows first and second edges 2’, 2’’ of adjacent floor elements in cross-section during joining. (Pålsson 5, ll. 27-28). Fig. 1

does not show any space between the tongue 11 and the groove 13 sized and shaped to form a dust pocket.

4. Pålsson's floor element 1 is also provided with a male vertical assembly joining member 10<sup>III</sup> on a third edge 2<sup>III</sup> and a female vertical assembly joining member 10<sup>IV</sup> on a fourth edge 2<sup>IV</sup> opposite the third edge 2<sup>III</sup>. (Pålsson 7, ll. 22-25).

5. Fig. 5 of Pålsson shows the male vertical assembly joining member 10<sup>III</sup> as having a downwardly projecting portion at its outer edge and the female vertical assembly joining member 10<sup>IV</sup> as having an upwardly projecting portion at its outer edge. The outermost surfaces of both projecting portions are shown as horizontal and flat with no channels.

6. The male vertical assembly joining member 10<sup>III</sup> of Pålsson's floor member 1 is provided with a mainly vertical lower cheek surface 21 arranged parallel to the third edge 2<sup>III</sup>. A mainly vertical upper cheek surface 22 is arranged on the female vertical assembly joining member 10<sup>IV</sup>. (Pålsson 7, ll. 25-31). Fig. 5 of Pålsson shows the lower cheek surface 21 and the upper cheek surface 22 as being formed with a slope relative to the vertical direction so that the lower cheek surface 21 fits the form of the upper cheek surface 22. The upper and lower cheek surfaces 21, 22 are intended to interact so that two adjacent floor elements are locked against each other in a horizontal direction. (Pålsson 7, ll. 25-31).

7. Fig. 5 of Pålsson appears to show the upper and lower cheek surfaces 21, 22 as being smooth without undercuts.

8. The male vertical assembly joining member 10<sup>III</sup> of Pålsson's floor member 1 also is provided with two snapping hooks 23 while the female vertical assembly joining member 10<sup>IV</sup> is provided with matching

undercuts 24. (Pålsson 7, l. 31 – 8, l. 2). Fig. 5 of Pålsson shows the snapping hooks 23 arranged on an outer wall of the male vertical assembly joining member 10''' and the undercuts 24 arranged on an inner wall of the female vertical assembly joining member 10<sup>IV</sup>. Fig. 5 further shows that the outer wall on which the snapping hooks 23 are formed is spaced transversely from the lower cheek surface 21. The snapping hooks 23 and the undercuts 24 limit the vertical movement between two joined adjacent floor elements. (Pålsson 7, l. 31 – 8, l. 2).

9. Fig. 5 of Pålsson shows the snapping hooks 23 positioned above the vertical extent of the lower cheek surface 21.

10. By locking the two adjacent floor elements against each other in a horizontal direction, the upper and lower cheek surface 21, 22 hold mating horizontal surfaces of the snapping hooks 23 and the undercuts 24 against each other, thereby locking the two floor elements against vertical movement. Since the upper and lower cheek surfaces 21, 22 are sloped, the two surfaces also cooperate to lock two floor elements against vertical movement by resisting vertically upward movement of the female vertical assembly joining member 10<sup>IV</sup> of one floor element relative to the male vertical assembly joining member 10''' of the other floor element.

11. Pålsson discloses providing cavities in the joint between two joined floor elements. (Pålsson, 4, l. 25).

## PRINCIPLES OF LAW

“To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently.” *In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997). A claim under



1 examination is given its broadest reasonable interpretation consistent with  
2 the underlying specification. *In re American Acad. of Science Tech. Ctr.*,  
3 367 F.3d 1359, 1364 (Fed. Cir. 2004). In the absence of an express  
4 definition of a claim term in the specification, the claim term is given its  
5 broadest reasonable meaning in its ordinary usage as the term would be  
6 understood by one of ordinary skill in the art. *In re ICON Health & Fitness,*  
7 *Inc.*, 496 F.3d 1374, 1379 (Fed. Cir. 2007); *In re Morris*, 127 F.3d 1048,  
8 1054 (Fed. Cir. 1997). Limitations not expressed in the language of the  
9 claims cannot be imported from the specification. *E-Pass Techs., Inc. v.*  
10 *3Com Corp.*, 343 F.3d 1364, 1369 (Fed. Cir. 2003).

## 11 12 ANALYSIS

13 The snapping hooks 23 and the slope formed on the lower cheek  
14 surface 21<sup>2</sup> of Pålsson's male vertical assembly joining member 10''' are  
15 form-fitting elements in the sense that the snapping hooks and the slope  
16 formed on the lower cheek surface are configured to fit the forms of the  
17 undercuts 24 and the upper cheek surface 22 of Pålsson's female vertical  
18 assembly joining member 10<sup>IV</sup> of another floor element. (See FF 6 and 8).  
19 The snapping hooks are spaced apart from the slope formed on the lower  
20 cheek surface in the transverse direction and in the vertical direction. (See  
21 FF 6, 8 and 9).

22 The slope formed on Pålsson's lower cheek surface 21 is formed on  
23 an essentially vertical wall. Looking to the Appellant's Specification for

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<sup>2</sup> The slope formed on the lower cheek surface 21 may be thought of as the right-triangular prism of material between the lower cheek surface itself and a vertical plane extending upwardly from the upper edge of the lower cheek surface.

1 guidance, form-fitting action by shoulders 25, 250 of the floor panels  
2 disclosed by the Appellant lock the panels in the transverse direction. (Spec.  
3 6, ll. 18-22). The Appellant's Fig. 3 indicates that it is the interaction of  
4 the inner surfaces 27, 270 of the shoulders 25, 250 which lock the panels  
5 against separation in a transverse direction. Absent a clearer indication  
6 of the meaning of the term "essentially vertical" from the Appellant's  
7 Specification, the term is sufficiently broad to include surfaces sufficiently  
8 vertical to lock adjacent panels against movement in the transverse direction.  
9 In this sense, Pålsson's upper and lower cheek surfaces 21, 22 are essentially  
10 vertical. (*See* FF 7).

11 The form-fitting elements, that is, the snapping hooks 23 and the slope  
12 formed on the lower cheek surface 23 are for locking adjacent floor elements  
13 in the vertical direction. Since the upper and lower cheek surfaces 21, 22 are  
14 sloped, the two surfaces cooperate to lock two floor elements against vertical  
15 movement by resisting vertically upward movement of the female vertical  
16 assembly joining member 10<sup>IV</sup> of one floor element relative to the male  
17 vertical assembly joining member 10<sup>III</sup> of the other floor element. (FF 10).  
18 Since the Specification fails to define the term "locking in the vertical  
19 direction," this is all that the language of claim 1 requires.

20 Even were claim 1 interpreted narrowly so as to require the form-  
21 fitting elements to lock the floor elements in the vertical direction so as to  
22 prevent upward movement of the recited floor element, the upper and lower  
23 cheek surface 21, 22 lock mating horizontal surfaces of the snapping hooks  
24 23 and the undercuts 24 in engagement. This interaction locks the two floor  
25 elements against upward movement of the recited element. (FF 10).  
26 Therefore, Pålsson discloses form-fitting elements for locking in the vertical

1 direction with a further panel formed on a second side edge running at an  
2 angle to the first side edge, wherein the form-fitting elements are spaced  
3 apart from one another in the transverse direction and in the vertical  
4 direction on two spaced-apart, essentially vertically oriented walls.

5 The ordinary meaning of the term “undercut” is “the result of cutting  
6 away from the underside of anything.” WEBSTER’S THIRD NEW INT’L  
7 DICTIONARY at 2488 (G&C Merriam Co. 1971)(“undercut,” entry 2, def. 1).  
8 The term “undercut” as used in claim 4 must be understood in the context of  
9 that claim. Claim 4 depends from claim 1, which recites a top side and an  
10 underside of the panel. Claim 4 recites that the second step-like milled relief  
11 starts from the top side. This recitation implies that the second step-like  
12 milled relief is relieved in an upward direction. Hence, the term “undercut”  
13 as used in claim 4 must refer to the result of cutting away from the underside  
14 of anything relative to the upward direction defined by the direction in  
15 which the second step-like milled relief projects.

16 Pålsson’s female vertical assembly joining member 10<sup>IV</sup> has undercuts  
17 24 which correspond to the snapping hooks 23 of a male vertical assembly  
18 joining member 10<sup>III</sup> of an adjacent floor element. (FF 8). Pålsson’s upper  
19 and lower cheek surfaces 21, 22 have no undercuts. (FF 7). In particular,  
20 the upwardly projecting section at the outer end of the female vertical  
21 assembly joining member 10<sup>IV</sup> is not an undercut when the floor element is  
22 in the orientation meeting the other limitations of claims 1 and 4. Therefore,  
23 Pålsson does not disclose undercuts formed on an inner wall and an outer  
24 wall which correspond with the snapping hooks 23 and the slope formed on  
25 the lower cheek surface 21.

1           There is no basis in Pålsson or in the common knowledge in the art for  
2 finding that design or manufacturing tolerances inherently will result in the  
3 tongue and groove of a floor panel joint being sized and shaped to form a  
4 dust pocket. Pålsson discloses providing cavities in the joint between two  
5 joined floor elements. (FF 12). This disclosure implies that such cavities  
6 are not provided as a necessary result of design and manufacturing  
7 tolerances. Pålsson does not disclose expressly (*see* FF 3) or inherently that  
8 a tongue 11 and a groove 13 are sized and shaped to form a dust pocket.

9           The ordinary meaning of the term “relief” is “[t]he projection of  
10 figures or forms from a flat background.” The Free Dictionary, [http://www](http://www.thefreedictionary.com/relief)  
11 [.thefreedictionary.com/relief](http://www.thefreedictionary.com/relief) (last visited March 4, 2009)(def. 6a). One of  
12 ordinary skill in the art would understand the head surface of a relief to be  
13 the outermost surface of the relief. The downwardly projecting portion at  
14 the outer edge of the male vertical assembly joining member 10''' is a step-  
15 like relief relative to the horizontal surface or channel on the opposite side of  
16 the lower cheek surface 21. (*See* FF 5). The outermost or “head” surface of  
17 the downwardly projecting portion is flat with no channel formed therein.  
18 (*Id.*) The horizontal surface on the opposite side of the lower cheek surface  
19 21 from the outermost surface of the downwardly projecting portion is not  
20 a channel formed in the outermost or “head” surface of the projection but  
21 rather the flat surface from which the downwardly projecting portion or  
22 “step-like relief” is relieved. Pålsson does not disclose a first step-like  
23 milled relief including an essentially horizontal head surface with a channel  
24 formed therein.

CONCLUSIONS

The Appellant has not shown that the Examiner erred in finding that Pålsson discloses form-fitting elements for locking in the vertical direction with a further panel formed on a second side edge running at an angle to the first side edge, wherein the form-fitting elements are spaced apart from one another in the transverse direction and in the vertical direction on two spaced-apart, essentially vertically oriented walls. Therefore, the Appellant has not shown that the Examiner erred in rejecting claims 1 and 3 under § 102(b) as being anticipated by Pålsson.

The Appellant has shown that the Examiner erred in finding that Pålsson discloses undercuts formed on an inner wall and an outer wall which correspond with the one and the other form-fitting elements. Therefore, the Appellant has shown that the Examiner erred in rejecting claim 4 under § 102(b) as being anticipated by Pålsson.

The Appellant has shown that the Examiner erred in finding that Pålsson discloses walls forming at least a portion of a tongue and a groove on a first side edge of the floor panel being sized and shaped to form a dust pocket. Therefore, the Appellant has shown that the Examiner erred in rejecting claim 12 under § 102(b) as being anticipated by Pålsson.

The Appellant has shown that the Examiner erred in finding that Pålsson discloses a first step-like milled relief including an essentially horizontal head surface with a channel formed therein. Therefore, the Appellant has shown that the Examiner erred in rejecting claims 5-7, 9 and 13 under § 102(b) as being anticipated by Pålsson.

DECISION

We AFFIRM the rejections of claims 1 and 3.

We REVERSE the rejections of claims 4-7, 9, 12 and 13.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a) (2007). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2007).

AFFIRMED-IN-PART

JRG

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